

The Role of Sucking Bugs in The Epicarp

Lesion Syndrome of Pistachio

R.E. Rice,<sup>1/</sup> J.K. Uyemoto,<sup>2/</sup> J.M. Ogawa, <sup>2/</sup>

R.A. Jones,<sup>1/</sup> and R.M. Bostock<sup>2/</sup>

Several insect species in the Order Hemiptera have been shown to be definite causal agents of epicarp lesion (EL) in pistachios. These include a leaf-footed bug, Leptoglossus clypealis (Coreidae), Lygus hesperus (Miridae), a grass bug Calocoris norvegicus (Miridae), and a stinkbug Thyanta palidovirens (Pentatomidae). Sucking bugs which have not caused EL when caged on pistachio nuts include a pre-daceous stinkbug, Brochymena sulcatus, and the squash bug Anasa tristis (Coreidae). A thrips species has also been associated with EL; its exact role in the disease incidence is not yet clearly defined.

At this time, only Leptoglossus is known to be capable of completing its life cycle and producing multiple generations exclusively on pistachio. Cage studies and observations of Leptoglossus nymphs suggest that they may require foliage as well as nuts for feeding sites. Leaf-footed bugs have a wide host range, including citrus, cotton, stonefruits, pomegranate, yucca, juniper, cedar, cucurbits, Pinus, sumac, etc. In addition to pistachio, Leptoglossus clypealis has been collected this year from several varieties of arborvitae (Thuja spp.).

Leaf-footed bugs overwinter as adults; the adults are long-lived and may be found on various hosts throughout the year. Leptoglossus has two, and possibly three, generations per year in central California. Nymphs go thru five instars before molting to the winged adult stage. Eggs of Leptoglossus clypealis are parasitized by a small, black scelionid wasp, Gyron pennsylvanicum. Several egg masses have also been found attacked by a predator, probably ants.

<sup>1/</sup> Department of Entomology. U.C. Davis/Parlier

<sup>2/</sup> Department of Plant Pathology. U.C. Davis